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ABSTRACT

Medical students' perceptions of the college environment and interactions with peers and faculty were studied at the University of North Carolina, Duke University, Wake Forest University, and East Carolina University. A total of 76 black medical students (65% of the 117 black students in North Carolina's four medical schools) responded to a questionnaire in 1980. Results indicated that large levels of expressed negativism by black medical students was associated with white faculty (i.e., various forms of behavior by white faculty were perceived to cause negative responses). This was in sharp contrast to findings related to black faculty. Students responded to questions using a Likert-type scale about: how often they experienced verbal or nonverbal behaviors from white and black professors that generated negative responses (either internally or externally); how often the general behavior of their medical school professors and peers effected negative responses; how often black medical students were treated positively by white and black faculty; the extent to which they felt ignored in labs by faculty or assistants; perceptions of biased grading; perceptions of racially biased comments and actions in clinical settings; and stress in relation to academics and finances. (SW)

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BLACK NORTH CAROLINA MEDICAL STUDENTS' PERCEPTIONS OF PEER AND FACULTY INTERACTIONS AND SCHOOL ENVIRONMENTS

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ABSTRACT

After over 10 years of admitting greater numbers of black medical students in North Carolina medical schools what were the students' perceptions at those schools concerning the general environment and interpersonal interactions, particularly with faculty and peers? One objective of this study was thus to gain a sense of how black students perceived the medical school environments. Another objective was to identify interactions which generated negative reactions in students. The results indicated that large levels of expressed negativisism by black medical students was associated with white faculty. This was in sharp contrast to the findings related to black faculty. A major implication is the need for more black faculty at predominantly white medical schols not only for the numerous reasons usually given, but to also reduce the degree of negativism in black students attending those schools.

BLACK NORTH CAROLINA MEDICAL STUDENTS' PERCEPTIONS OF PEER AND FACULTY INTERACTIONS AND SCHOOL ENVIRONMENTS

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In the early 1970's, resulting from the efforts of civil rights groups which spurred the federal government to apply pressure and make funds available, many predominantly white medical schools begin to increase their enrollment of black students. As shown in Table 1, before the 1970's, the enrolled number of black students was, for practical purposes, insignificant at most medical schools; Howard and Meharry were the exception (Blackwell, 1981).

TABLE 1

Enrollment of Black Students in U.S. Medical Schools in Selected Years Before 1970

Year	Total Enrollment	Number of Black Students	Percent of Black Students	Percent of Total Black Enrollment in Predominantly White Schools
1938-1939	21,302	350	1.64	12.9
1948-1949	23,670	588	2.59	19.1
1955-1956	28,639	761	2.66	31.0
1968-1969	35,828	782	2.18	37.3

Source: D.C. Reitzes, Negroes and Medicine, Harvard University Press, 1958.

The three older schools in the state of North Carolina certainly exemplified that pattern. For example, although the University of North Carolina School of Medicine admitted and subsequently graduated its first black in 1950 and 1954, respectively, for about 15 years the normal enrollment of blacks per year was no more than one.(1) And the records for black enrollment and graduation at, the two other medical schools, Duke University School of Medicine and Bowman Gray

School of Medicine at Wake Forest University, was not at the level of the University of North Carolina. Duke did not enroll its first black medical student until 1963 (about the same time as UCLA, to give an example of how widely blacks were historically excluded from the nation's predominantly white medical schools and to note that the practice was not under sole ownership of southern schools) and Bowman Gray enrolled its first black in 1967.(2-3) A fourth school, East Carolina School of Medicine, did not open until 1976 and had two blacks in its first class of 32 students.(4) Dramatic increases in the numbers of black students in U.S. medical schools occurred in the 1970's as shown in Table 2.

TABLE 2

Enrollment of Black Students in U.S. Medical Schools for Selected Years 1970-1971 to 1979-1980

Year	Total Enrollment	Black Student Enrollment	Percent of Black Students
1970-1971	40,238	1,509	3.8
1971-1972	43,560	2,055	4.7
1974-1975	53,554	3,353	6.3
1977-1978	60,099	3,587	6.0
1979-1980	63,800	3,627	5.6

Source: The Association of American Medical Colleges.

With such substantial increases in the number of black students at predominantly white medical schools, what has been the perceptions of those students regarding their experiences at schools that suddenly allowed more of them to enter? In an effort to address particular elements of that question, this study is thus related to early studies by Reitzes and Elkhanialy (1976), Johnson (1978), and Strayhorn (1980) that surveyed black medical students regardng their perceptions of medical school environments. Reitzes and Elkhanialy looked at perceived discrimination by black medical students who

attended predominantly white medical schools and found that 60% reported they had experienced discrimination. Johnson (1978) compared the perceptions of minority and nonminority medical students and reported that nonminority students perceived the medical school faculty significantly more favorably than minority students. Strayhorn (1980) found that black students at a predominantly white medical school experienced more stress than white medical students.

The medical school environment however, appears to be somewhat problematic for all students. Funkenstein (1970) for example, reported that the academic and social atmosphere in medical schools leads to poor learning experiences and impedes personal development of medical students. He further stated that medical sudents frequently perceived medical schools as dehumanizng as a result of overwhelming amounts of material to learn, sharp competition among students, and faculty who do not treat students as adults. If such is the experience of traditional medical students, i.e., white advantaged males, what were the impressions of black students who found themselves in such a milieu?

After about 10 years of admitting greater numbers of black medical students at the University of North Carolina, Duke University, and Bowman Gray and with East Carolina expected to follow the pattern of those older schools, this study addressed the question regarding the perceptions of black students at those schools concerning the environment and interactions with faculty and peers? Thus, one objective was to gain a general sense of how the students perceived the medical school environment. Another objective was to attempt to identify interactions which have generated negative reactions in black students. Inceractions were considered important areas to examine because those that are perceived as negative may well be significant sources of stress for some students. Because black medical students may be in environmnents that they may perceive as being psychologically isolating, they may be particularly susceptible to stresses related to negative interactions. Consequently, student

academic perfrmance can be adversely affected if such negatve factors occur over a sustained period (Whitman, Spendlove, and Clark, 1984). .

METHODOLOGY

Sample

To addresss the objectives related to the study, a questionnaire was used to elicit information. The questionnaire was administered in 1980; the population of black medical students in North Carolina's four medical schools was 117. Sixty-five percent of the population or 76 students completed and returned questionnaires. Of that number, 28% were first year students, 32% were in the second year, 15% were third year, and 25% were fourth year students. Seventy percent of the respondents were males and 30% were females. Sixty-eight percent were between the ages of 21-25 and 22% were between 26-30. Sixty-two percent attended the University of North Carolina School of Medicine, which ranked fifth nationally in the number of black enrollees at predominantly white medical schools; 18% attended Bowman Gray, 16% attended Duke, and 4% attended East Carolina, the smallest school and with the smallest number of black students. Of note, the percentages of respondents from each school approximated their represented percentages in the sample.

Questionnaire

The questionnaire comprised 105 items. Some of the items elicited demographic information but most were structured to assess students' perceptions of interactions with faculty and peers and their perceptions of the medical school environment. The internal consistency of the questionnaire as measured by Cronbach's alpha was .88.

Procedure

Each black medical student in North Carolina was either personally given or mailed a questionnaire and a self-addressed envelope. The questionnaires were coded so that follow-up letters could be sent to students who had not returned the questionnaires within a two week period. For those not responding to the first follow-up letter within a second two week period, another letter was sent along with a second questionnaire and self-addressed envelope.

Students were informed that the questionnaires were coded and were further informed of the purpose for the coding. The students, however, were assured that their responses would remain anonymous.

FINDINGS

Financial Support and Parental Employment Status

Concerning sources of financial support, 74% of the respondents reported they received assistance from scholarships; 16% received grants; 63% had loans; 22% received support from their families; and 13% were supported by personal incomes.

Regarding employment status of parents, of 62 valid cases (VCs), 77% of the fathers were reported as employed whereas 23% were unemployed. The employment percentages for the mothers were even lower. For 66 VCs, 67% of the mothers were employed and 33% were unemployed.

Parental Socioeconomic Status

With regards to parental salary, when adjusting for inflation relative to current costs, for the 62 students who were able to respond to the related item, 27% of the fathers earned incomes below $9,300 (adjusted for inflation, $9975 would be at the poverty level for a family of four); 26% earned incomes between

$9,300 and $17,300 (or 53% below $17,300); 18% earned incomes between $17,300 and $26,600; 13% earned incomes beween $26,600 and $46,500, and eight percent had incomes over $46,500. The mean range for fathers' income was between $13,300 and $21,300.

For the 66 students who were able to respond the item related to their mothers' income, 48% of the mothers reportedly earned incomes below $9,300; 27% had incomes between $9,300 and $17,300; 18% had incomes between $17,300 and $21,300; and six percent had incomes over $21,300. The mean range for mothers' income was betweem $6,600 and $13,300. Thus, for the average respondent with both parents employed, the combined parental income range would be between $19,900 and $34,600.

With regard to parental education, 35% of the respondents (70 VCs) reported that their fathers had not completed high school and 19% of the fathers were reported to have completed high school; 11% had one to three years of college; 10% graduated from college or had some graduate school training; and 27% had attained a graduate or professional degree. The average respondent's father had one to three years of college.

Twenty-five percent of the repondents (73 VCs) reported that their mothers had not completed high school and 26% of the mothers were reported to have completed high school; 12% had one to three years of college; 25% graduated from college or had some graduate school training; and 15% had attained graduate or professional degrees. The average respondent's mother also had one to three years of college.

Sources of Verbal Behavior that Generated Negative Responses

The students responded to five-point scale Likert-type items (the most common item-type in the questionnaire) that addressed the question of how often they experienced verbal behaviors from professors that generated negative

responses (either internally or externally). Forty percent of the respondents (76 VCs) indicated that white professors' verbal behaviors have generated such responses very often or often. Forty-seven percent reported that they occasionally experienced negative responses attributed to verbal behavior from white professors.

Concerning verbal behavior emanating from black professors, seven percent (75 VCs) reported that they very often or often experienced behavior that caused negative responses. Twenty-four percent of the respondents indicated that they occasionally experienced negative responses as a result of verbal behavior from black professors; but 69% indicated they rarely or never experienced such responses.

With regards to verbal behavior from peers that produce negative responses, 45% (76 VCs) reported that this has occurred very often or often from their interactions with white peers. Thirty-eight percent indicated that this has occasionally occurred. Pertaining to verbal behavior from black peers, 18% (76 VCs) indicated that the behavior very often or often generated negative responses within them, whereas 50% reported that this has occasionally occurred.

Sources of Nonverbal Behavior that Generated Negative Responses

Regarding nonverbal behavior that effected negative responses, 57% (76 VCs) indicated that nonverbal behavior from white professors very often or often generated negative responses, and 34% reported that such behavior occasionally generated negative responses. Related to nonverbal behavior from black professors, eight percent (75 VCs) indicated they very often or often experienced negative responses; 20% reported that such responses occurred occasionally.

Concerning nonverbal behavior from peers that caused negative responses, 58% (76 VCs) reported that nonverbal behavior emanating from white peers has

very often or often generated negative responses. Thirty percent reported that nonverbal behavior from white peers occasionally generate negative responses. Sixteen percent (75 VCs) indicated that nonverbal behavior of black peers very often or often generated negative responses, and 53% indicated that such responses occurred occasionally.

The Frequency of General Behavior that Generated Negative Responses

The students were asked how often the general behavior of their medical school professors and peers effected negative responses. As regards the behavior of white basic science faculty, 36% (73 VCs) reported that related negative responses occurred very often (3%) or often, and 48% indicated that such responses occurred occasionally. Regarding black basic science faculty, two percent (50 VCs) indicated that negative responses were caused by observed behavior. Ten percent reported that negative responses occurred occasionally.

Related to white on-campus clinical faculty, 38% (66 VCs) indicated that the general behavior of those faculty very often or often was assoicated with negative responses, and 44% reported that negative responses occasionally occurred. Six percent (53 VCs) reported that negative responses were occasionally generated by the behavior of black on-campus clincal faculty; 94% indicated that such negative responses rarely or never occurred.

Pertaining to white off-campus clinical faculty, 18% (50 VCs) reported the behavior of that faculty very often or often produced negative responses. Thirty-eight percent indicated that the faculty's behavior occasionally generated negative responses. Regarding black off-campus clinical faculty, eight percent (39 VCs) reported they occasionally had negative responses as a resulty of that faculty's behavior; 92% reported that negative responses rarely or never occurred.

Regarding the the behavior of white peers, 41% (76 VCs) reported that

related negative responses occurred very often or often, and 48% indicated that such responses were occasionally generated. Concerning the behavior of black peers, seven percent (74 VCs) indicated that negative responses were very often or often occurred, and 47% reported that negative responses were occasionally generated.

Perceptions Regarding the Degree of Sensitivity Toward Black Students

The students were asked their perceptions of faculty advisors, and peers' sensitivity to black students' backgrounds and needs. Forty-nine percent (72 VCs) considered the white basic science faculty as being insensitive or somewhat insensitive. Thirty-six percent of the respondents perceived that faculty to be neither sensitive or insensitive (neutral), and 15% perceived the faculty to be sensitive. Eight percent (49 VCs) perceived the black basic science faculty as being somewhat insensitive, and 65% considered that faculty to be sensitive or highly sensitive.

Fifty-five percent (59 VCs) perceived white on-campus clincal faculty to be insensitive or somewhat insensitive; seven percent considered that faculty sensitive or highly sensitive and 37% perceived the faculty to be neutral. Four percent (53 VCs) indicated that black on-campus clinical faculty were insensitive or somewhat insensitive, and 74% perceived that faculty to be sensitive or highly sensitive.

White off-campus clinical faculty were considered to be insensitive or somewhat insensitive by 42 percent (45 VCs) of the respondents. Three percent considered that faculty to be sensitive and 47% perceived the faculty to be neutral. For black off-campus clinical faculty, three percent of the respondents perceived them to be insensitive, and 63% perceived them to be sensitive or highly sensitive.

With regard to white faculty who were advisors, 26% (68 VCs) considered the

advisors to be insensitive. Thirty-two percent considered the advisors to be sensitive, and 41% perceived them to be neutral. Nine percent (44 VCs) perceived black faculty advisors as being insensitive or somewhat insensitive; 82% considered black advisors to be highly sensitive or sensitive.

Regarding peers, 50% (76 VCs) considered their white peers to be insensitve or somewhat insensitive to black students' needs and backgrounds. Ten percent perceived their white peers as sensitive, and 40% considered them to be neutral. Seven percent (73 VCs) of the respondents perceived their black peers as insensitive or somewhat insensitive, and 78% perceived them as sensitive or highly sensitive.

Perceptions of Positive Treatment From Faculty

The students were asked to respond to the question: How often are black medical students treated positively by white and black faculty? Thirty-two percent (75 VCs) believed black students had been treated positively very often or often by white faculty. Forty-nine percent indicated they felt black students had been occasionally treated positively by white faculty. With regard to treatment from black faculty, 85% (71 VCs) believed black students have been treated positively, and 14% indicated they believed positive treatement has occasionally occurred.

Feelings of Being Ignored by Lab Instructors

The students were asked the extent to which they felt ignored in labs by faculty or assistants. Thirty-two percent (76 VCs) of the respondents indicated that they very often or often experienced being ignored by white faculty or assistants. Twenty-nine percent reported they occasionally experienced being ignored by white faculty or lab assistants. On the other hand, seven percent (59 VCs) indicated that they occasionally experienced being ignored by black

faculty or assistance. Ninety-three percent reported that they rarely or never experienced being ignored by black faculty or assistants.

Perceptions of Biased Grading

The students were asked whether they experienced bias grading. Thirty-two percent (65 VCs) reported they had very often or often experienced bias grading practices. Thirty-seven percent indicated they occasionally experienced biased grading practices. Twelve percent reported they rarely experienced biased grading and 18% indicated they never experienced such practices.

Perceptions of Racially Biased Comments and Actions in Clinical Settings

The students were asked whether they experienced racially biased comments and actions in clinical settings from faculty and house-staff (residents and interns). Thirty-two percent (54 VCs) reported they had very often or often experienced racially biased comments and actions from white faculty. Thirty-three percent reported they occasionally experienced such comments and actions from white faculty. Related to black faculty, 100% (40 VCs) indicated they never or rarely experienced racially biased comments and actions from black faculty. Concerning housestaff in general, 25% (48 VCs) reported they experienced racially biased comments and actions from that group. Thirty-three percent of the respondents indicated they occasionally experienced such action from housestaff.

Stress in Relation to Academics and Finances

The students were asked often they experienced stress in relation to academics and finances. Sixty-four percent (76 VCs) indicated they very often or often experienced stressed that stemmed from academics, and 33% reported they occasionally experienced stress that was associated with academics. (This

provides further evidence that medical schools are stress provoking environments.) With regards to finance, 53% (76 VCs) reported that area to be very often or often related to stress. Twenty-six percent of the respondents indicated that finances was occasionally a source of stress.

Satisfaction With Choice of Medical School

The students were asked how satisfied, overall, were they with their choice of the medical schools they attend? Seventy-six percent (76 VCs) of the respondents indicated they were very satisfied or satisfied with their choice.

DISCUSSION

As indicated by the results, large levels of expressed negativism by black medical students was associated with white faculty. For example, various forms of behavior by white faculty was far more likely to be perceived to cause negative responses. This was in sharp contrast to the findings related to black faculty. The behavior of black faculty, for example was far less attributed as a cause of negative responses. But it should be noted that the number of black faculty is quite small; indeed, the percentage of black clinical faculty has been approximately 1.7%, nationally, since 1978, and the specific percentage for basic science faculty is even smaller (Higgins and Jolly, 1982). Thus, one implication is that there is need for more black medical school faculty to reduce the degree of negativism in black medical students. (The other obvious needs, however, are not ignored).

As indicated by the results of this study, the degree of negativism is alarming. The indications are that black students are often likely to feel alienated within the medical school environment. Such feelings of alienation and the acompanying negativism can have a depressing effect on academic

performance and may further be related to adverse levels of stress. Consequently, medical schools are probably perceived as unfriendly environments for many black medical students and the presence of black faculty appears to be critical. Although Funkenstein (1970) contended that medical students in general associated numerous negative experiences with medical schools, black students probably perceive even more negatively related aspects in those environments.

Therefore, another implication is that there needs to be greater awareness and sensitivity by white faculty. Moreover, schools concerned with the well-being of all students, should forthrightly attempt to address those factors that reportedly generate large levels of negativism and feelings of alienation in black students. As a result, the pay-off from such efforts is that all students will benefit from a more supportive environment.

The major purpose of this study was to solely examine the perceptions of black medical students that represented one state but the results are probably generalizable to a broader population of black medical students. There may, however, be some interest in comparing white and black student responses to appropriate items from the questionnaire. The hypothesis is that there will be a relatively large number of significant differences on many of the items. But even if differences did not exist, if similar results occurred as observed from this study, there should be even greater cause for concern if the general medical student population viewed the medical school environment with such negativism.

NOTES

1. From the Registrar's Office at the University of North Carolina School of Medicine.

2. From the Registrar's Office at Duke University School of Medicine.

3. From the Registrar's Office at Bowman Gray School of Medicine at Wake Forest University.

4. From the Registrar's Office at East Carolina School of Medicine.

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